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REMARKS

Claims 1-17 are pending in the application. The Applicants respectfully request reconsideration of claims 1-17.

The drawings stand objected to because of the following informality: FIG. 2, block 22, "TCM Switch" should read --TDM Switch-- for consistency with the specification. The drawings have been amended in accordance with the Examiner's suggestion. No new matter has been added.

Claims 13-16 are objected to because of the following informalities: As per claims 13-16, "claim 1" should read --claim 12--. Applicants have amended the claims in accordance with the Examiner's suggestion. No new matter has been added.

Claims 1-17 stand rejected under 35 U.S.C. 102(b) as being anticipated by Dent (U.S. Patent 5,555,257).

According to the Office Action, regarding claim 1, Dent discloses a multimode transmission system (FIG. 6) using TDMA comprising: a TDM switch (FIG. 16; block 1601) coupled to a data signal (1600; CALLING CHANNEL DATA; and TIMING CONTROL) (col. 14, lines 40-53), said data signal comprising a plurality of satellite services (1600; CALLING CHANNEL DATA; and TIMING CONTROL), said TDM switch multiplexing said data signal into a TDMA signal (output of block 1601) comprising a plurality of TDMA transmission frames, each TDMA transmission frame having a plurality of downlink frame time slots, wherein

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each of said downlink frame time slots is dynamically allocated to one of said plurality of satellite services (col. 18, lines 3-21); a modulator (1602) coupled to said TDM switch (1601) and receiving said TDMA signal, said modulator modulating said TDMA signal to generate a modulated TDMA signal (output of 1602) (col. 18, lines 21-26).

The Office Action alleges that a beam-shaping, power-controlling, transmit antenna is inherent in Dent although not shown (1603 and antenna (not shown; inherent) or FIG. 18; 1800) coupled to said demodulator and broadcasting said modulated TDMA signal using at least one downlink beam, said at least one downlink beam having a shape and number determined by said data signal (col. 9, lines 60-65, and col. 18, lines 40-57 and col. 23, line 48 to col. 24, line 5 and col. 29, lines 4-5).

Claim 1 is amended to include "a transmit antenna comprising beam-shaping and power-controlling systems," including "said beam-shaping and power-controlling systems enabling TDMA switching between shaped beam modes and spot beam modes of said antenna," from page 6, lines 4-7, which the Dent reference neither discloses nor suggests. Not only does the Dent reference not disclose this type of antenna, but the beam-shaping and beam power control of the antenna allow for the dynamic partitioning of a satellite system's capacity between wide-area broadcasts and localized point-to-point service and efficient utilization of the satellites transmission power. (page 6, lines 7-10.) Further, the TDMA switching reduces the required number of antennas for receiving various services.

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Applicant believes the amended claim 1 is new and nonobvious because the prior art provides no teachings or suggestion for the satellite system claimed by the Applicants.

Claims 2-11 depend from the amended claim 1 and are believed to be allowable for at least the aforementioned reasons.

According to the Office Action, regarding claim 12, Dent discloses a satellite system (FIG. 6) comprising: a ground station (400); a satellite (410) in orbit and in communication with said ground station (400) (see FIG. 6), said satellite having a multimode transmission system using TDMA comprising: a TDM switch (FIG. 16; block 1601) coupled to a data signal (1600; CALLING CHANNEL DATA; and TIMING CONTROL) (col. 14, lines 40-53), said data signal comprising a plurality of satellite services (1600; CALLING CHANNEL DATA; and TIMING CONTROL), said TDM switch multiplexing said data signal into a TDMA signal (output of block 1601) comprising a plurality of TDMA transmission frames, each TDMA transmission frame having a plurality of downlink frame time slots, wherein each of said downlink frame time slots is dynamically allocated to one of said plurality of satellite services (col. 18, lines 3-21); a modulator (1602) coupled to said TDM switch (1601) and receiving said TDMA signal, said modulator modulating said TDMA signal to generate a modulated TDMA signal (output of 1602) (col. 18, lines 21-26); and a beam-shaping, power-controlling, transmit antenna (1603 and antenna (not shown; inherent) or FIG. 18; 1800) coupled to said demodulator and broadcasting said modulated TDMA signal using at least one downlink beam, said at

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least one downlink beam having a shape and number determined by said data signal (col. 9, lines 60-65, and col. 18, lines 40-57 and col. 23, line 48 to col. 24, line 5 and col. 29, lines 4-5).

Claim 12 has been amended to include "a transmit antenna comprising beam-shaping and power-controlling systems," wherein "said beam-shaping and power-controlling systems enabling TDMA switching between shaped beam modes and spot beam modes of said antenna," from page 6, lines 4-7, which the Dent reference neither discloses nor suggests. As was discussed regarding claim 1, this antenna is novel and non-obvious with regard to the Dent reference for the reasons mentioned.

Applicant therefore believes the amended claim 12 is new and nonobvious because the prior art provides no teachings or suggestion for the satellite system claimed by the Applicants.

Claims 13-16 depend from the amended claim 12 and are believed to be allowable for at least the aforementioned reasons.

According to the Office Action, regarding claim 17, Dent discloses a method for satellite system (FIG. 6) comprising the steps of: generating a data signal comprising plurality of data services (1600; CALLING CHANNEL DATA; and TIMING CONTROL); generating a timing signal (TIMING CONTROL); multiplexing said data signal to generate a TDMA signal (output of block 1601) having a plurality of downlink frame each downlink frame

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having a plurality of downlink frame slots, wherein each of said downlink frame time slots is dynamically allocated to one of said plurality of satellite services (col. 18, lines 3-21); modulating said TDMA signal to generate a modulated TDMA signal (output of 1602) (col. 18, lines 21-26); broadcasting said modulated TDMA signal using at least one downlink beam, said at least one downlink beam having a shape and number determined by said data signal (col. 9, lines 60-65, and col. 18, lines 40-57 and col. 23, line 48 to col. 24, line 5 and col. 29, lines 4-5).

Claim 17 was originally numbered claim "15" and is amended as claim "17" such that there is now only one claim 15.

Claim 17 is further amended to include TDMA switching between shaped beam modes and spot beam modes, which the Dent reference neither discloses nor suggests. This switching process is new in that it allows for the dynamic partitioning of a satellite system's capacity between wide-area broadcasts and localized point-to-point service and efficient utilization of the satellites transmission power. (page 6, lines 7-10.)

Applicant therefore believes the amended claim 17 is new and nonobvious because the prior art provides no teachings or suggestion for the satellite system claimed by the Applicants.

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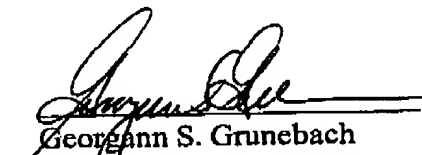
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Applicants believe the application is in condition for allowance and expedient notice thereof is earnestly solicited. Should the Examiner have any further questions, he is requested to contact the undersigned.

Please charge any fees required in the filing of this amendment to deposit account 50-0383.

In light of the above amendments and remarks, Applicants submit that all rejections are now overcome. The application is now in condition for allowance and expeditious notice thereof is earnestly solicited. Should the Examiner have any questions or comments, which would place the application in better condition for allowance, he is respectfully requested to call the undersigned attorney.

Respectfully submitted,


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